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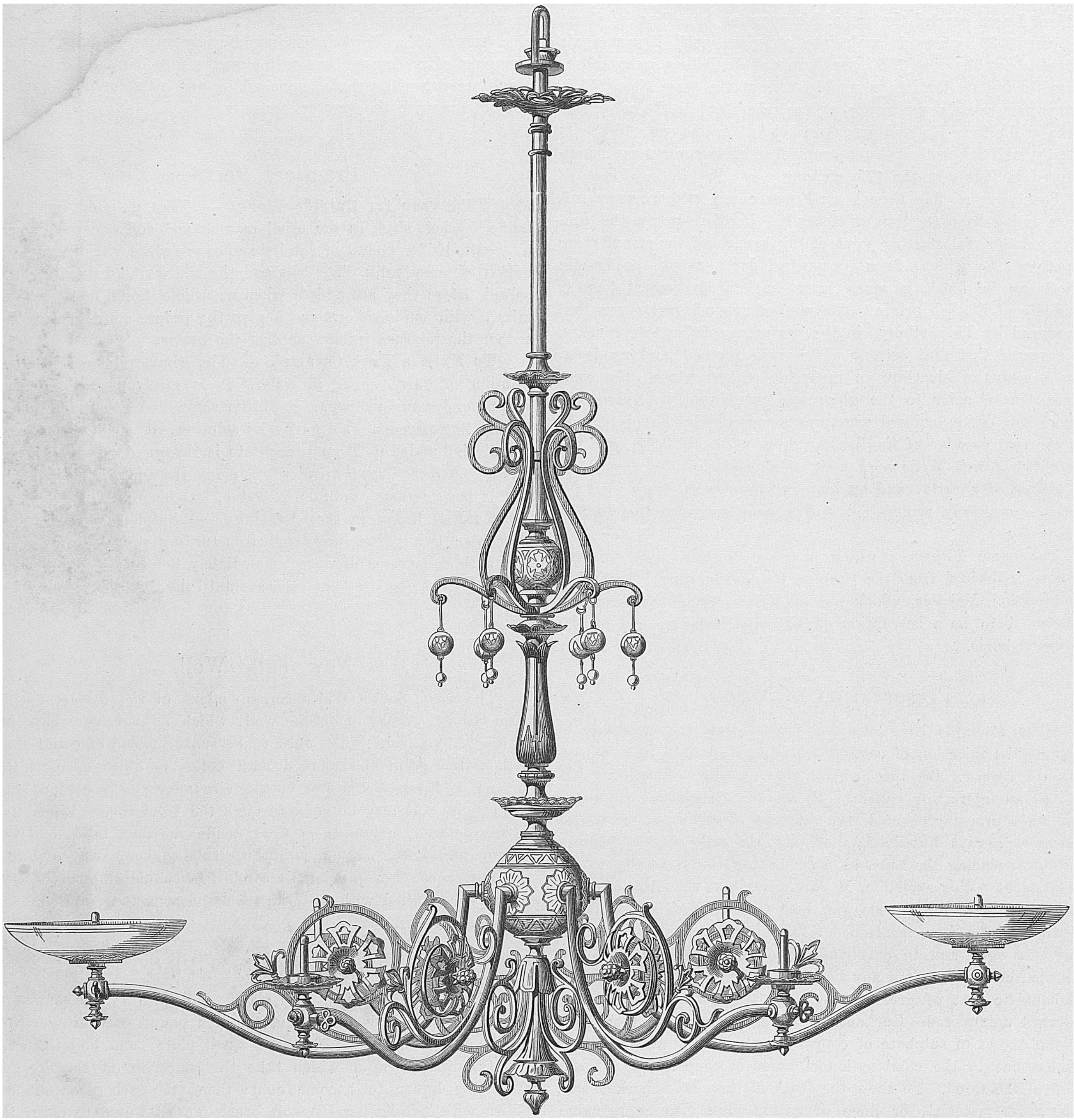

No. 39.

No. 39. Bronze Chandelier, executed by Mr. D. Hollenbach, Vienna.

VARIOUS.

Historical Notes on Earthenware.

Amongst the various branches of the potter's art, that of preparing fine earthenware was certainly discovered last, and may be termed modern in comparison with the more common or enamelled productions.

Clay-wares composed of a soft, poròus, calcareous mass, covered with enamel, were first made by the Arabs, and introduced by them into Spain. The celebrated Palace of the Alhambra, built in the year 1273 by Mohamed Ben Alhamar, is profusely decorated with tablets of earthenware, and with urns of the same substance. A knowledge of earthenware was first introduced into Italy by the Arabs (1415); but it appears that the manufacture of pottery was discovered independently by the Florentine sculptor, Lucca della Robbia (1338 to 1430), who cultivated it with great assiduity and success, as a means of embodying artistic conceptions. A grandchild of Lucca carried the art of his ancestor into France, about the year 1530, where it sunk into oblivion, until it was again revived about the year 1560, by Bernhard de Palissy, who endeavoured to imitate the Italian models. About the same time (1520), earthenware vessels were made at Nuremberg, while the celebrated works at Delft in Holland were established in the year 1660. It is lastly well authenticated that enamelled earthenware was manufactured in Persia in the 17th century.

Specimens of fine French earthenware are said to be in existence dating from the time of Henry II., therefore in the 16th century; but the real starting point of this branch of the manufacture of pottery, for which, from its gradual development, no definite period can be fixed, is much later, and in its present form is decidedly of English origin. The use of ground quartz was first introduced by Th. Astbury, in the beginning of the 18th century. He observed that flint became white when calcined, and employed it as a means of bleaching or rendering pottery white. The communication of color to the glaze was introduced by Sadler and Green; the cream colored ware was discovered by Enoch Wood; but the real founder of English potteries (1730 to 1795) was the celebrated Josiah Wedgwood. He established in the year 1770 the village of Etruria, and by his own discoveries, taste, and industry, completely remodelled and greatly extended this branch of industry.

The name *Fayence,* which is given to this kind of ware abroad, is derived from the town of Faënca, in Italy. The older denomination, Majolica, which was applied to Italian earthenware, is believed to be a corruption of the name Majorca, one of the Balearic Islands.

Preservation of Wood.

Many attempts have been made to increase the durability of wood by the injection of certain solutions, especially that of sulphate of copper. On this subject the Academy of Sciences has received an interesting paper by M. Maurice Boucherie. He states that, when properly effected, the injection of the above-mentioned solution is always beneficial; and that the best way to perform it is by displacing the sap and then letting the wood dry in the air. To prove this assertion, M. Boucherie sent in with his paper a few samples of railway sleepers laid down in 1847, after being prepared in the way mentioned. They had been taken up but a short time ago, and in excellent preservation. They were found to be harder to saw than any common dry wood; their resistance was equal to that of green wood, and their elasticity had been preserved unimpaired. Our author contends however, that it is not the excess of sulphate of copper to which they owe their excellence but to the combination of oxide of copper with the cellulose of the wood. To show the truth of this, he remarks, that if the latter material, or linen or cotton cloth, be impregnated with cupric solutions, and afterwards washed in much water until none of the metal salt be left, it will nevertheless be found that such substances will remain uninjured, however long they may lie buried in the earth; and that if they be afterwards treated with ammonia, oxide of copper will be obtained from them. It is well known that the continual contact of the iron chair with the sleepers is injurious to the wood, and yet in the present case it has not been so, the wood having been used when perfectly dry, after being saturated with the copper solution. The latter is rarely absorbed if the wood contain more than six per cent. of sulphate of iron. *Galignani.*

Oil Painting upon Zinc.

Every painter is aware of the difficulty experienced in making oil colors adhere to articles of sheet zinc. Prof. Bœttger, however, has recently published a process by which it is stated, that the desired result can be accomplished, this process consisting in the previous application, by means of a hard brush, of a mordant, composed of one part of chloride of copper, one part of nitrate of copper, one part of sal ammoniac, and sixty-four parts of water, to which is afterwards added one part of hydrochloric acid. The zinc turns of a deep black immediately after the application, changing after drying (twelve to twenty four hours) to a dirty black, greyish-white shade, upon which any oil color once applied will adhere with the greatest tenacity.

Practical Recipes.

Whitewash for Outside Work. — Take of good quicklime half a bushel, slack in the usual manner and add one pound common salt, half a pound of sulphate of zinc (white vitriol), and one gallon of sweet milk. The salt and the white vitriol should be dissolved before they are added, when the whole should be thoroughly mixed with sufficient water to give the proper consistency. The sooner the mixture is then applied the better.

To Make a Pure Caramel. — The commercial caramel is a solution of burnt sugar in water. It is rarely pure, often containing undecomposed sugar and bitter compounds generated during the heating process. To purify its solution, it should be filtered and alcohol added until no precipitate is thrown down. The precipitate is a dark brown powder, in many instances almost black, and is pure caramel, soluble in water, but insoluble in alcohol.

To Fill Holes in Iron Castings. — Sulphur one part, salammoniac two parts, powdered iron turning eighty parts, make into a thick paste with water immediately before using. The materials should also be kept separate until the time they are wanted. *Scientific American.*

New Tube Well.

The New South Wales correspondent of the *Times,* dating from Sidney, speaks of a tube well, which be considers superior to the "Abyssinian". The tube to be sunk, instead of being shod with a steel point and pierced with holes, is quite open at the bottom, and possesses a free cutting circumference in contact with the ground. It may be sunk through the solid rock. When this is encountered, a jumper is used inside the first tube, and this having pretty free motion within the tube makes a way of larger circumference. For quitting the rubbish a tubular jumper is used, which, when filled with material, is withdrawn and emptied.

To Clean Silver Plate.

Fill a large saucepan with water; put into it one ounce of carbonate of potash and a quarter of a pound of whiting. Now put in all the spoons, forks, and small plate, and boil them for twenty minutes; after which take the saucepan off the fire and allow the liquor to become cold; then take each piece out and polish with soft leather. A soft brush must be used to clean the embossed and engraved parts. *Piesse.*

Black Coloring for Zinc and Brass.

In order to obtain a durable black color for zinc work, clean the object with a mixture of finely powdered quartz and sulphuric acid, then dip it in a solution of 4 parts ammoniacal sulphate of nickel and 40 parts water to which add 1 part sulphuric acid; after a few moments' immersion the object must be well washed and dried. The black coat adheres perfectly to zinc, while, if obtained by means of nitrate or chloride of copper, it is not durable. If the object is scratched with a wire-brush it takes a beautiful bronze color.

In order to give a fine black stain to brass-work, dip it in a liquid heated to 122° F., and composed of $^1/_2$ part arsenic acid, 1 part hydrochloric acid, 20 parts water and $^1/_4$ part sulphuric acid, after which wash and dry it well. If the object, while in this mixture, is touched with a cylinder of zinc, the electric current thereby produced accelerates the deposit of the coat of reduced arsenic.